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NOTE ON THE PERIODS OF CLOSE BINARIES.

In reviewing two recent statistical studies of spectroscopic binaries in the April number of the *Publications*, Mr. PADDOCK finds in the investigation of orbital eccentricities by JORDAN<sup>1</sup> a possible verification of WICKSELL's<sup>2</sup> conclusion that two orders of period exist for the various spectral classes. It is not necessary, however, to depend on spectroscopic orbits alone for a further examination of this question, for the only data necessary to test the hypothesis are the periods and spectral types of close double stars. We may combine the results for both eclipsing and spectroscopic binaries, and the material, while still homogeneous, is more than doubled. The most recent results are included in the following table:—

LOGARITHM OF PERIOD AND SPECTRAL TYPE.

| Spectrum | —0.8<br>to<br>—0.4 | —0.4<br>to<br>0.0 | 0.0<br>to<br>+0.4 | +0.4<br>to<br>+0.8 | +0.8<br>to<br>+1.2 | +1.2<br>to<br>+1.6 | +1.6<br>to<br>+2.0 | +2.0<br>to<br>+2.4 | +2.4<br>to<br>+2.8 | +2.8<br>to<br>+3.2 | +3.2<br>to<br>+3.6 | +3.6<br>to<br>+4.0 | Total<br>No. of<br>Binaries |
|----------|--------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-----------------------------|
| B        | ..                 | ..                | 9                 | 16                 | 10                 | 6                  | ..                 | 6                  | ..                 | ..                 | ..                 | ..                 | 47                          |
| A        | ..                 | 9                 | 26                | 40                 | 14                 | 9                  | 3                  | 2                  | ..                 | 1                  | 1                  | ..                 | 105                         |
| F-G-K    | 2                  | 3                 | 3                 | 10                 | 5                  | 4                  | 4                  | 5                  | 5                  | 3                  | 1                  | 2                  | 47                          |
| Total    | 2                  | 12                | 38                | 66                 | 29                 | 19                 | 7                  | 13                 | 5                  | 4                  | 2                  | 2                  | 199                         |

It is seen at once that the double grouping of periods has disappeared (except for six stars of spectrum B). We should remember, however, that rather complicated conditions of selection have influenced the present lists of both spectroscopic and eclipsing binaries, so that any statistical conclusion must be to some extent conditional and temporary. The frequency curves and a fuller discussion of the subject will appear in the current number of the *Astrophysical Journal*.

HARLOW SHAPLEY.

HONORS FOR PROFESSOR LEUSCHNER AND PROFESSOR STEBBINS.

The National Academy of Sciences at its April meeting in Washington conferred the Watson Gold Medal upon Professor A. O. LEUSCHNER, Director of the Students' Observatory, University of California, in recognition of the great value of his contributions to the theory and practice of orbit determination,

<sup>1</sup> *Publ. All. Obs.*, **3**, 158.

<sup>2</sup> *Arkiv för Matematik, Astronomi och Fysik*, **10**, No. 6, 1914.